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**UTILITY  
PATENT APPLICATION  
TRANSMITTAL**

Attorney Docket No.

PPC-694

First Named Inventor or Application Identifier

Nels Lauritzen

Express Mail Label No.

EL190925384US

**APPLICATION ELEMENTS**

**ADDRESS TO:** Assistant Commissioner for  
Box Patent Application  
Washington, DC 20231

MPEP Chapter 600 concerning utility patent application  
elements.

1. ☒ Fee Transmittal Form (attached hereto in duplicate)

2. ☒ Specification [Total Pages 28]

(Preferred arrangement set forth below)

- Descriptive Title of the Invention
- Cross References to Related Applications
- Statement Regarding Fed sponsored R&D
- Reference to Microfiche Appendix
- Background of the Invention
- Brief Summary of the Invention
- Brief Description of the Drawings (if filed)
- Detailed Description
- Claim(s)
- Abstract of the Disclosure

3. ☒ Drawing(s) (35 USC 113) [Total Sheets 5]

4. Oath or Declaration

- a. ☐ Newly executed (original or copy)
- b. ☒ Unexecuted original
- c. ☐ Copy from a prior application (37 CFR 1.63(d))  
(for continuation/divisional check boxes 5 and 16)
  - i. ☐ Deletion of Inventor(s)  
Signed statement attached deleting  
inventor(s) named in the prior application,  
see 37 CFR 1.63(d)(2) and 1.33(b).

5. ☐ Incorporation by Reference  
(useable if Box 4c is checked)  
The entire disclosure of the prior application, from  
which a copy of the oath or declaration is supplied  
under Box 4c, is considered as being part of the  
disclosure of the accompanying application and is  
hereby incorporated by reference therein.

6. ☐ Microfiche Computer Program (Appendix)

7. Nucleotide and/or Amino Acid Sequence  
Submission (if applicable, all necessary)

- a. ☐ Computer Readable Copy
- b. ☐ Paper Copy (identical to computer copy)
- c. ☐ Statement verifying identity of above copies

**ACCOMPANYING APPLICATION PARTS**

- 8. ☐ Assignment Papers (cover sheet &  
document(s))
- 9. ☐ 37 CFR 3.73(b) Statement  
(when there is an assignee) ☐ Power of Attorney
- 10. ☐ English Translation Document (if applicable)
- 11. ☐ Information Disclosure Statement  
(IDS)/PTO-1449 ☐ Copies of IDS Citations
- 12. ☐ Preliminary Amendment
- 13. ☒ Return Receipt Postcard (MPEP 503)  
(Should be specifically itemized)
- 14. ☐ Certified Copy of Priority Document(s)  
(if foreign priority is claimed)

15. ☐ Other:

16. ☐ If a CONTINUING APPLICATION, check appropriate box and supply the requisite information:

Amend the specification by inserting before the first line: -- This is a ☐ Continuation ☐ Divisional  
☐ Continuation-in-Part (CIP) of prior application No.: , filed --

17. For this divisional application, please cancel original Claims of the prior application before calculating the filing fee.

**18. CORRESPONDENCE ADDRESS**

☐ Customer Number or Bar Code Label or ☒ Correspondence Address below

Name: Audley A. Ciamporcerro, Jr., Esq.

Address: Johnson & Johnson  
One Johnson & Johnson Plaza  
New Brunswick, NJ 08933-7003 USA

**19. TELEPHONE CONTACT**

Please direct all telephone calls or telefaxes to Joel A. Rothfus at:

Telephone: (732) 524-2722 Fax: (732) 524-2808

**19. SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED**

NAME Joel A. Rothfus Reg. No. 33,277

SIGNATURE

DATE December 16, 1999

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Nels Lauritzen

For : **ABSORBENT GARMENT HAVING A WAIST BELT ATTACHMENT  
SYSTEM**

Express Mail Certificate

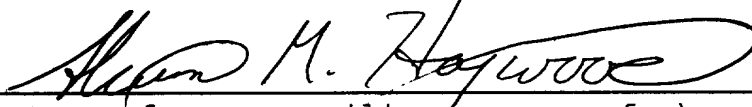
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Date of Deposit: December 16, 1999

I hereby certify that this complete application, including specification pages, claims, informal drawings, Declaration and Power of Attorney, (unexecuted), is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

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**ABSORBENT GARMENT HAVING A WAIST BELT ATTACHMENT SYSTEM**

**Field of the Invention**

5 The present invention relates to absorbent garments that may be worn about a wearer's lower torso, such as adult incontinence garments, and in particular to absorbent garments having a waist belt for encircling a wearer's waist.

10 **Background Of the Invention**

Garments of the general type described are well known. In particular, disposable garments and incontinent garments are widely described in the patent literature and elsewhere. Among such publications are patents that  
15 relate to classes of garments that are provided with various suspensions and/or attaching means. For example, Ahr, US Pat. No. 4,909,802, teaches a disposable absorbent garment having an integral belt segment on each side of the garment. The integral belt  
20 segments, in association with receiving or attachment means, are intended to hold or suspend the garment about the lower torso of the wearer.

25 A similar product is disclosed in Gipson, US Pat. No. 4,964,860. In this product, a reusable belt is detachable from a disposable absorbent assembly. The belt has indicia to mark its longitudinal centerline as a target for attaching the first end of the disposable

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absorbent assembly. In order to put the Gipson product on her own torso, the user would attach one end of the disposable absorbent assembly to the belt proximate the indicia. Next, the article is placed about her waist with the absorbent assembly hanging behind her and the belt is drawn about and encircles the torso. The user will then secure the ends of the belt together. She can then reach down between her legs to retrieve the second end of the disposable absorbent assembly to attach it to the belt in front of her. This requires the user to handle an awkward assembly hanging down behind her where it may become soiled prior to being secured about her waist. In order to avoid this sequence additional steps may be required.

Garments of the type described in the prior art, as well as those which have been available commercially, suffer from one or more of the following deficiencies: they are uncomfortable in that the elastic strips and buttons used to secure them about the body tend to irritate the wearer; they are size-dependent and unable to accommodate a variety of wearers; they tend to sag in use resulting in significant leakage with its attendant psychological effects; they are expensive to manufacture; they are not readily refastenable, thereby inhibiting a parent, an incontinent, or a person in charge of a incontinent from opening the garment and examining for wetness or from easily lowering and then

refastening the garment when using bathroom facilities; they are overly bulky in the front where the belt portions fasten to one another and to the garment; and they are difficult to use for people who have limited dexterity and range of motion.

Therefore, it is an object of the present invention to provide a combination of an absorbent garment and a waist belt attachment system that overcomes, to a great degree, the deficiencies in the prior art structures. It is another object of the present invention to provide an absorbent structure that is pulled up to the user's body to avoid excessive sag-induced leakage. It is yet another object of the present invention to provide a product line that requires fewer product sizes and/or shapes to accommodate the wide variety of sizes and shapes of users of the product. It is an additional object of a portion of the present invention to provide an absorbent garment having a single integral belt for use as a waist belt attachment system. It is a further object of the present invention to provide an absorbent garment that may easily be used by people having limited dexterity and range of motion.

While the subject technology has application on all drawer-like garments (i.e., garments that encircle the waist and are drawn through the crotch of a wearer), it has particular application on drawer-like garments in

which the sides of the crotch portion do not meet along the sides of the wearer when worn, as is often the case with adult size incontinence garments.

5      **Summary of the Invention**

10      In accordance with the present invention, an absorbent garment, such as an adult incontinence garment, is provided with a suspension sling and a waist belt segment attached to the suspension sling. The suspension sling comprises an absorbent structure having a garment surface, a body surface, and side edges; a liquid impervious backsheet positioned adjacent the garment surface of the absorbent structure; and a liquid pervious topsheet positioned adjacent the body surface of the absorbent structure.

15      In one preferred embodiment, the waist belt attachment system comprises a single integral belt segment and a belt attachment system for use in association with the integral belt segment. A first end of the integral belt segment is joined to a proximal end of the suspension sling to form an "L-shape". Each end of the integral belt segment is also provided with belt attachment system components which are intended to cooperate with  
20      each other to fasten the belt about the waist of the wearer. Further, a central portion of the integral belt segment and the distal end of the suspension sling are provided with sling attachment system components to  
25

fasten the distal end of the sling to the integral belt when the garment is in place around a wearer's torso.

In another preferred embodiment, the waist belt has a first belt end, a second belt end, a first sling attachment location proximate the first belt end, and a second sling attachment location disposed between the first and second belt ends. The suspension sling is releasably attachable to the sling attachment locations.

After use, the suspension sling is removable from the waist belt for disposal, and another suspension sling may be releasably attached to the sling attachment locations.

The embodiments of this invention successfully achieve one or more of the objects of the invention identified above.

#### **Brief Description of the Drawings**

FIG. 1 is a perspective view of a disposable absorbent garment embodiment of the present invention.

FIG. 1a is a cross-section of the waist belt of FIG. 1 taken across line 1a-1a.

FIG. 2 is a perspective view of the disposable absorbent garment embodiment of FIG. 1 showing the integral waist

belt in a position as it would encircle a wearer's waist.

FIG. 3 is a perspective view of the disposable absorbent garment embodiment of FIG. 2 further showing the suspension sling in a position as it would be drawn between a wearer's legs.

FIG. 4 is a perspective view of a disposable absorbent garment embodiment of the present invention as it would be configured during use.

FIG. 5 is a perspective view of an alternative embodiment of the present invention comprising a reusable waist belt and releasably attachable suspension sling, similar to the view in FIG. 2.

#### **Detailed Description of the Preferred Embodiments**

The present invention relates to absorbent garments such as an adult incontinence garment, and more particularly, to absorbent garments having an improved waist belt attachment system. In a first embodiment shown in FIGS. 1-4, the absorbent garment is a disposable product having an integral waist belt attachment system. In a second embodiment shown in FIG. 5, the absorbent garment comprises a reusable waist belt to secure a disposable absorbent suspension sling.



As used herein the specification and the claims, the term "integral disposable absorbent garment" refers to articles which absorb and contain body exudates and more specifically refers to articles which are placed against or in proximity to the body of a wearer to absorb and contain the various exudates discharged from the body and which are intended to be discarded after a single use (i.e., they are not intended to be laundered or otherwise restored or reused), and which are unitary in that they do not require separate manipulative parts like a separate holder and liner. A preferred embodiment of the integral disposable absorbent garment of the present invention is shown in FIG. 1.

As used herein the specification and the claims, the term "absorbent garment" refers to a garment generally worn by infants or other incontinent persons, or by menstruating females about the lower torso.

FIG. 1 is a perspective view of the garment 10 of the present invention in its flat out, uncontracted state (i.e., with all elastic induced contraction pulled out).

As can be seen in FIG. 1, the garment 10 basically comprises an integral waist belt 1 attached to suspension sling 2 at the proximal end 3 of suspension sling 2. The integral waist belt 1 further comprises elastic elements 4 and a belt closure system 5 for use in attaching the second end 6 of the belt to the first

end 7 of the belt. The suspension sling 2 may be any element that is generally compressible, conformable, non-irritating to the wearer's skin, and capable of absorbing and containing body exudates, such as feces, urine, blood, pus, and the like. In the preferred embodiment shown in FIG. 1, the suspension sling 2 comprises a liquid pervious topsheet 12; a liquid impervious backsheet 14; and an absorbent structure 16 that is positioned between said topsheet 12 and said backsheet 14.

Joined to the proximal end 3 of suspension sling 2 is the integral belt 1. The integral belt 1 is an elongated member or combination of members which are generally conformable and non-irritating to the wearer's skin and which serve to hold or suspend the garment about the wearer's lower torso. As used herein the specification and the claims, the term "joined" includes any means for affixing the members together. It includes, without limitation, (a) embodiments wherein the first member, (e.g., the integral belt 1) is a separate member constructed from the same or different material as the second member (e.g., an element of the suspension sling 2) and directly or indirectly secured to the second member (i.e., integral), and (b) embodiments wherein the first member is constructed from the same material as the second member in such a way that the first member comprises continuous and undivided

elements of the second member (i.e., unitary). In the preferred embodiment shown in FIG. 1, the integral belt 1 is an elasticized nonwoven.

5 As used herein the specification and the claims, the term "attach" and variants thereof include the above defined "joined" and also means for affixing members together wherein the members can be removed without destroying at least one of the members.

10 The suspension sling 2 has a liquid receiving top surface that is generally defined by the topsheet 12 and a back surface that is generally defined by the backsheet 14. Preferably, the topsheet 12 and the  
15 backsheet 14 have length and width dimensions generally larger than the absorbent structure 16, so that they extend beyond the edges of the absorbent structure 16 where they are associated together in a suitable manner.

20 Alternatively, the topsheet 12 and/or the backsheet 14 may have length and width dimensions generally larger than the absorbent structure 16 so that they wrap around the side edges of the absorbent structure 16 and fasten together under absorbent structure 16 to enclose absorbent structure 16. As used herein the  
25 specification and the claims, the term "associated" encompasses configurations in which the topsheet 12 is directly joined to the backsheet 14 by affixing the topsheet 12 directly to the backsheet 14 and

configurations in which the topsheet 12 is indirectly joined to the backsheet 14 by affixing the topsheet 12 to intermediate members which in turn are affixed to the backsheet 14. In the preferred embodiment shown in FIG. 1, the extension of the topsheet 12 and/or the backsheet 14 beyond the side edges of the absorbent structure 16 forms the suspension sling side edges 18. It is preferred that the suspension sling side edges 18 are provided with side elastic elements 20 although these are not necessary. The elastic elements 20 may extend the entire length of the suspension sling side edges 18, or the elastic elements 20 may extend only along a portion of the length of the suspension sling side edges 18.

Examining some of the elements of the garment 10 in more detail, the topsheet 12 is positioned adjacent the body surface 22 of the absorbent structure 16 and overlies a major portion of the absorbent structure 16, so that when exudates are discharged onto the topsheet 12 they penetrate through the topsheet 12 where they are absorbed by the absorbent structure 16. The topsheet 12 is compliant, soft feeling, and non-irritating to the wearer's skin. Further, the topsheet 12 is liquid pervious, permitting liquids to readily penetrate through its thickness. A suitable topsheet may be manufactured from a wide range of materials, such as woven fabrics, nonwoven fabrics, plastic nets, porous

foams, reticulated foams, apertured plastic films, natural fibers (e.g., wood or cotton fibers), synthetic fibers (e.g., polyester or polypropylene fibers) or from a combination of natural and synthetic fibers.

5 Preferably, it is made of hydrophobic material to isolate the wearer's skin from liquids in the absorbent structure 16. A particularly preferred topsheet 12 comprises a nonwoven comprising a blend of staple length polypropylene fibers having deniers of about 3 and about 10 5, such as that currently used as the topsheet on STAYFREE<sup>®</sup> Maxipads with Cottony Dry Cover, which are sold by Personal Products Company, Skillman, New Jersey.

15 There are a number of manufacturing techniques which may be used to manufacture the topsheet 12. For example, a fibrous topsheet 12 may be woven, non-woven, spunbonded, carded, or the like. Alternatively, the topsheet 12 may comprise a plastic net material such as that described in DeRossett et al., US Pat. No. 4,710,186, or an 20 apertured plastic film such as that made by the process described in Turi et al., US Pat. No. 5,567,376. A preferred topsheet 12 is a nonwoven fabric formed by carding and thermally bonding fibers by means well known to those skilled in the fabrics art.

25 The absorbent structure 16 may be any element that is generally compressible, conformable, non-irritating to the wearer's skin, and capable of absorbing and

containing liquids and certain body exudates (e.g.,  
menses and/or urine). The absorbent structure 16 may be  
manufactured in a wide variety of sizes and shapes  
(e.g., rectangular, hourglass, etc.) and from a wide  
variety of liquid absorbent materials commonly used in  
disposable garments and other absorbent articles. A  
representative, non-limiting list of useful materials  
includes cellulosic materials, such as rayon, cotton,  
wood pulp, creped cellulose wadding, tissue wraps and  
laminates, peat moss, and chemically stiffened,  
modified, or cross-linked cellulosic fibers; synthetic  
materials, such as polyester fibers, polyolefin fibers,  
absorbent foams, absorbent sponges, superabsorbent  
polymers, absorbent gelling materials; formed fibers,  
such as capillary channel fibers and multilimbed fibers;  
combinations of materials, such as synthetic fibers and  
wood pulp including coformed fibrous structures (e.g.,  
those materials described in Anderson et al., US Pat.  
No. 4,100,324); or any equivalent material or  
combinations of materials, or mixtures of these. The  
total absorbent capacity of the absorbent structure 16  
should, however, be compatible with the designed exudate  
loading for the intended use of the garment 10.  
Further, the size and absorbent capacity of the  
absorbent structure 16 may be varied to accommodate  
wearers ranging from infants to adults.

An exemplary embodiment of the garment 10 has an hourglass shaped absorbent structure 16 and is intended to be worn by adults. The absorbent structure 16 of the example is a batt of pulp fluff about 16 centimeters (6.4 inches) wide (lateral dimension along the core waist edges 54), about 45 centimeters (18.0 inches) long (longitudinal dimension) and about 11 centimeters (4.4 inches) across (lateral dimension) the narrowest part of the crotch region 25. It should be understood, however, that the size, shape, configuration, and total absorbent capacity of the absorbent structure 16 may be varied to accommodate wearers ranging from infants through adults. Therefore, the dimensions, shape, and configuration of the absorbent structure 16 may be varied (e.g., the absorbent layer may have a varying caliper, or a hydrophilic gradient or may contain absorbent gelling materials).

The backsheet 14 is positioned adjacent the garment surface of the absorbent structure 16 and is preferably attached thereto by attachment means (not shown) such as those well known in the art. For example, the backsheet 14 may be secured to the absorbent structure 16 by a uniform continuous layer of adhesive, a patterned layer of adhesive, or an array of separate lines or spots of adhesive. An adhesive that has been found to be satisfactory has been manufactured by the H.B. Fuller

Company of St. Paul, Minnesota, under the name Fuller HL 1491 XPZ pressure sensitive adhesive.

5 The backsheet 14 is impervious to liquids and is preferably manufactured from a thin plastic film, although other flexible liquid impervious materials may also be used. The backsheet 14 prevents the exudates absorbed and contained in the absorbent structure 16 from wetting articles that contact the garment 10, such as bedsheets and undergarments. Preferably, the backsheet 14 is a polyethylene film having a thickness of from about 0.012 millimeters (0.5 mil) to about 0.051 centimeters (2.0 mils), although other flexible, liquid impervious materials may be used.

15 A suitable polyethylene film is a 1.0 mil thick film manufactured by Huntsman Packaging Corporation of Salt Lake City, Utah. The backsheet 14 is preferably embossed and/or matte finished to provide a more cloth-like appearance. Further, the backsheet 14 may permit vapors to escape from the absorbent structure 16 while still preventing liquid exudates from passing through the backsheet 14.

25 The size of the backsheet 14 and/or the topsheet 12 are dictated by the size of the absorbent structure 16 and the exact garment design selected. In a preferred embodiment, the backsheet 14 and the topsheet 12 have a



substantially hourglass shape and extend beyond the side edges of the absorbent structure 16 a distance of from about 2.5 centimeters (1.0 inch) to about 8.75 centimeters (3.5 inches) to form extensions around the side edges of the absorbent structure. These extensions are joined together to enclose effectively the absorbent structure between the backsheet and the topsheet.

The first end 7 of the integral belt 1 is joined to the suspension sling 2 along the suspension sling proximal end 3 by fixed attachment points or by continuous attachment along the entire proximal end 3. The first end 7 of the integral belt 1 can be joined to the suspension sling 2 in a number of ways and at a number of points on the suspension sling 2. The integral waist belt 1 has a second end 6 which is free from the suspension sling 2 and which extends away from the suspension sling 2. In use, a part of the second end 6 is associated with either the proximal end 3 of suspension sling 2 or the first belt end 7 to fasten the garment 10 about the waist of the wearer.

The belt closure system 5 may include a first element joined to the suspension sling proximal end 3 and a second element joined to the second belt end 6 in order to fasten the waist belt 1 around the waist of a user. The belt closure system elements are provided to receive and/or hold each other, and they may, in association

with the suspension sling 2, hold or suspend the suspension sling 2 about the lower torso of the wearer.

In the preferred embodiment shown in FIG. 1, one belt closure system element 5 is joined to the backsheet 14 of the suspension sling proximal end 3 and another belt closure system element 5 is joined to the second belt end 6. In this preferred embodiment, the belt closure system elements 5 comprise at least one adhesive material, such as pressure sensitive adhesive or a cohesive adhesive system. Preferably, the adhesive material is a segment of double-faced adhesive tape. Other belt closure systems are available. For instance, the belt closure system may utilize a pair of belt loops through which the second belt end 6 can be brought and then fastened to hold it in place. The belt loops can be separate members that are attached to the backsheet 14 of the suspension sling proximal end 3. Alternatively, the belt loops can be formed by cutting slits in the backsheet 14 through which the single second belt end 6 can be brought. Other alternative belt closure systems include mechanical fasteners. As used herein the specification and the claims, the term "mechanical fastener" refers to fastening systems that releasably join together through mechanical interaction.

A representative, non-limiting list of such fasteners includes hook-and-loop type fasteners (e.g., VELCRO brand fasteners), snaps, or hooks that interact with other elements of the belt closure system 5. An example

of such hooks is described in US patent 5,230,851 to Thomas et al., and an example of a nonwoven to which such hooks may be mechanically attached is described in Goulait, US Pat. No. 5,407,439.

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As shown in Figure 2, belt closure system interacts to secure the waist belt 1 around the waist of a wearer. The belt closure system 5 is intended to hold the waist belt 1 about the waist of a wearer and to allow for the suspension of the suspension sling 2 about the lower torso of the wearer.

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It is preferred that the waist belt 1 be a completely separate member from the suspension sling 2 which has been sewn, adhered, or joined by any other means to the suspension sling 2. It is also preferred that the waist belt 1 be elastically contractible. A preferred elastically contractible waist belt 1 is a laminate of a pre-stretched elastic member 30 between two webs 32 and 34, such as that shown in FIG. 1A. Webs 32 and 34, which may be similar or different materials, may be woven, knit, or nonwoven fabrics, films, apertured films, or plastic mesh or netting. Elastic member 30 may comprise, without limitation, elastic film, elastic nonwoven, stretchable woven or knit fabric, elastic strands, elastic foam, elastic adhesive, or a combination of these.

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Alternatively, the waist belt 1 may be an extension of the topsheet and/or the backsheet and integral with the suspension sling 2.

5 In the alternative embodiment illustrated in FIG. 5, the reference numerals of FIGS. 1-4 are repeated with the alteration that changed elements are reflected by the use of the "'" notation. Thus, the waist belt of the alternative embodiment is referred to by the reference numeral 1'. Thus, the second belt end 6' may be 10 releasably attached to the first belt end 7' by means of a belt closure system 5'. In addition, the suspension sling proximal end 3' may be attached to a first sling attachment location 40 on the waist belt 1' proximate the first belt end 7'. Preferably, this attachment 15 occurs after the first belt end 7' and second belt end 6' are attached together to reduce the likelihood of any significant distortion of the suspension sling 2' due to subsequent distortion of the waist band 1'. In 20 addition, the suspension sling distal end 38 may be attached to a second sling attachment location 42 on the waist belt 1'. The second sling attachment location 42 is disposed between the first belt end 7' and second belt end 6', preferably about midway between the two 25 ends.

A brief description of the use of the integral disposable absorbent product referring to FIGS. 1-4

follows. First, the wearer may wrap the waist belt 1 around her waist and fasten the belt closure system 5 together in such a way that the waist belt 1 is securely and comfortably fastened around the wearer's waist and suspension sling 2 is suspended generally in the front of the wearer, as shown in Figure 2. At this time, the wearer would be able to easily make adjustments to the belt closure system 5 to assure that the waist belt 1 is comfortably and securely fastened about her waist. The wearer then may rotate the product around her waist so that the suspension sling is hanging generally over her buttocks (not shown). The suspension sling then may be pulled forward between the wearer's legs, as shown in Figure 3. The suspension sling fasteners 36 then may attach the suspension sling distal end 38 to the waist belt 1. Figure 4 shows the garment as it would appear when in place about a wearer's lower torso.

Examples of suitable suspension sling fasteners 36 may be, without limitation, pressure sensitive adhesives, mechanical fasteners, cohesive adhesives, or any other fastening material that is capable of interacting with waist belt 1 to secure the suspension sling distal end 38 to the waist belt.

In the embodiment illustrated in FIG. 5, the above method could be employed to use the device, with the additional step that the suspension sling proximal end

3' would have to be attached to the waist belt 1', preferably at the first sling attachment location 40. As suggested above, this may most advantageously be done after the belt closure system 5 has been engaged to attach the first belt end 7' to the second belt end 6'.

The remaining steps described with reference to FIGS. 1-4 could then be followed. Of course, it is also possible to attach the suspension sling proximal end 3' to the first sling attachment zone 40 prior to fastening the waist belt 1' about the user's torso. This method would be substantially identical to that described above for FIGS. 1-4.

While particular embodiments of the present invention have been illustrated and described, it would be obvious to those skilled in the art that various other changes and modifications can be made without departing from the spirit and scope of the invention.

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WHAT IS CLAIMED IS:

5 1. An integral disposable absorbent garment that  
may be worn about a human lower torso, said garment  
comprising:

10 a) a suspension sling for absorbing and  
containing body exudates, said suspension sling  
having longitudinally extending suspension sling  
side margins, a suspension sling distal end and a  
suspension sling proximal end, said suspension  
sling being suspendable in a wearer's crotch  
region; and

15 b) a waist belt having a first belt end  
secured to the suspension sling proximal end and a  
second belt end;

20 wherein the waist belt is capable of encircling a user's  
waist with the suspension sling suspended in the  
wearer's crotch region.

25 2. The integral disposable absorbent garment as  
claimed in claim 1, wherein said suspension sling  
comprises:

a) a liquid permeable topsheet;

b) a liquid impermeable backsheet associated with said topsheet; and

5 c) an absorbent structure positioned between said topsheet and said backsheet.

10 3. The integral disposable absorbent garment as claimed in claim 2 wherein the suspension sling further comprises an elastic element.

15 4. The integral disposable absorbent garment as claimed in claim 3 wherein the elastic element is disposed in at least one suspension sling side margin.

5. The integral disposable absorbent garment as claimed in claim 1, wherein said waist belt is elastically contractible.

20 6. The integral disposable absorbent garment as claimed in claim 1, further comprising a belt attachment system.

25 7. The integral disposable absorbent garment as claimed in claim 6 wherein the belt attachment system is a pressure sensitive adhesive.



8. The integral disposable absorbent garment as claimed in claim 6 wherein the belt attachment system is a mechanical fastener.

5 9. The integral disposable absorbent garment as claimed in claim 6, wherein said suspension sling distal end further comprises suspension sling fasteners.

10 10. A method of applying an absorbent undergarment about a human lower torso having a waist and a crotch comprising the steps of:

15 a) encircling the waist of the torso with a waist belt comprising a first belt end secured to a proximal end of a suspension sling and a second belt end;

20 b) releasably attaching the second belt end to the first belt end;

25 c) drawing the suspension sling through the crotch of the torso, the suspension sling further comprising means for absorbing and containing body exudates, longitudinally extending suspension sling side margins, and a suspension sling distal end; and

d) releasably attaching the suspension sling distal end to the belt at a point between the second belt end and the first belt end.

5           11. The method of claim 10 further comprising orienting the second belt end and suspension sling toward the anterior of the torso while releasably attaching to the first belt end thereto.

10           12. The method of claim 11 further comprising rotating the encircling belt about the waist to locate the suspension sling at posterior portions of the torso, generally in the area of the buttocks, prior to drawing the distal end through the crotch toward anterior  
15 portions of the torso.

13. An absorbent garment that may be worn about a human lower torso, said garment comprising:

20           a) a waist belt having a first belt end, a second belt end, a first sling attachment location proximate the first belt end, and a second sling attachment location disposed between the first and second belt ends; and

25           b) a disposable suspension sling for absorbing and containing body exudates, said suspension sling having longitudinally extending

suspension sling side margins, a suspension sling distal end and a suspension sling proximal end, said suspension sling being attachable to the first and second sling attachment locations of the waist belt in a manner to suspend the suspension sling in a wearer's crotch region;

wherein the waist belt is capable of encircling a user's waist with the suspension sling suspended in the wearer's crotch region.

14. The absorbent garment of claim 13 wherein the second sling attachment location is disposed approximately midway between the first and second belt ends.

15. The absorbent garment of claim 13 wherein the waist belt and suspension sling comprise a belt closure system.

16. The absorbent garment of claim 15 wherein the belt closure system comprises closure system elements at least at the first and second sling attachment locations and proximate the suspension sling distal and proximal ends.

17. The absorbent garment of claim 16 wherein closure system elements join the first sling attachment location to the suspension sling proximal end.

5 18. A method of applying an absorbent undergarment about a human lower torso having a waist and a crotch comprising the steps of:

10 a) encircling the waist of the torso with a waist belt having a first belt end, a second belt end, a first sling attachment location proximate the first belt end, and a second sling attachment location disposed between the first and second belt ends;

15 b) releasably attaching the first and second belt ends;

20 c) attaching to the first sling attachment location a proximal end of a disposable suspension sling useful for absorbing and containing body exudates, said suspension sling having longitudinally extending suspension sling side margins, a suspension sling distal end and the  
25 suspension sling proximal end;

d) drawing at least the suspension sling distal end through the crotch of the torso; and

e) attaching the suspension sling distal end to the second sling attachment location.

5           19. The method of claim 18 further comprising the step of orienting the first belt end toward anterior portions of the torso while releasably attaching to the second belt end thereto.

10           20. The method of claim 19 further comprising the steps of attaching the suspension sling proximal end to the first sling attachment location while the first and second belt ends are oriented toward the anterior of the torso and rotating the belt about the waist to locate  
15 the suspension sling adjacent posterior portions of the torso, generally in the area of the buttocks, prior to drawing the distal end through the crotch toward the anterior portions of the torso.

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ABSTRACT OF THE DISCLOSURE

An absorbent garment, such as an adult incontinent  
brief, having a waist belt attached to a suspension  
sling. The waist belt, in association with an  
attachment system, is intended to encircle and fasten  
about the waist of a wearer, allowing the suspension  
sling to be securely suspended in the wearer's crotch  
region.

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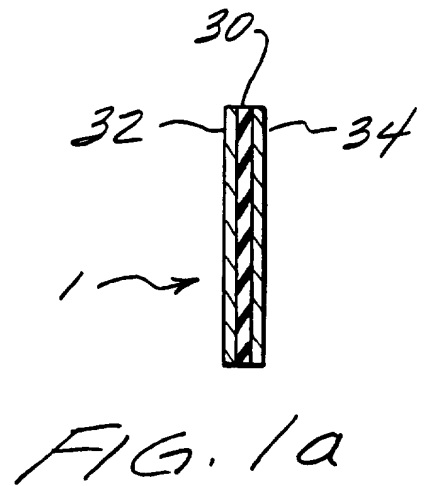
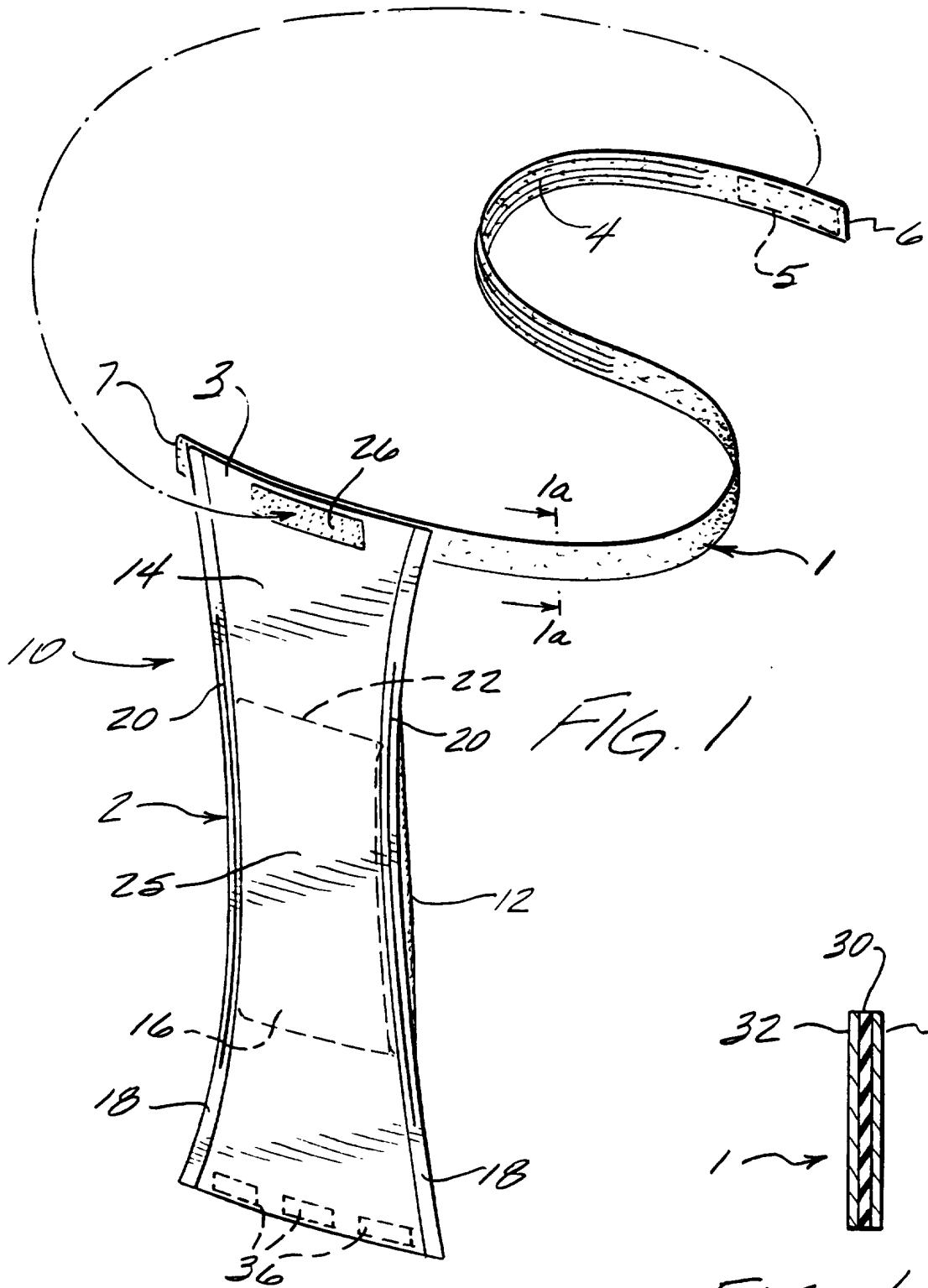


FIG. 2

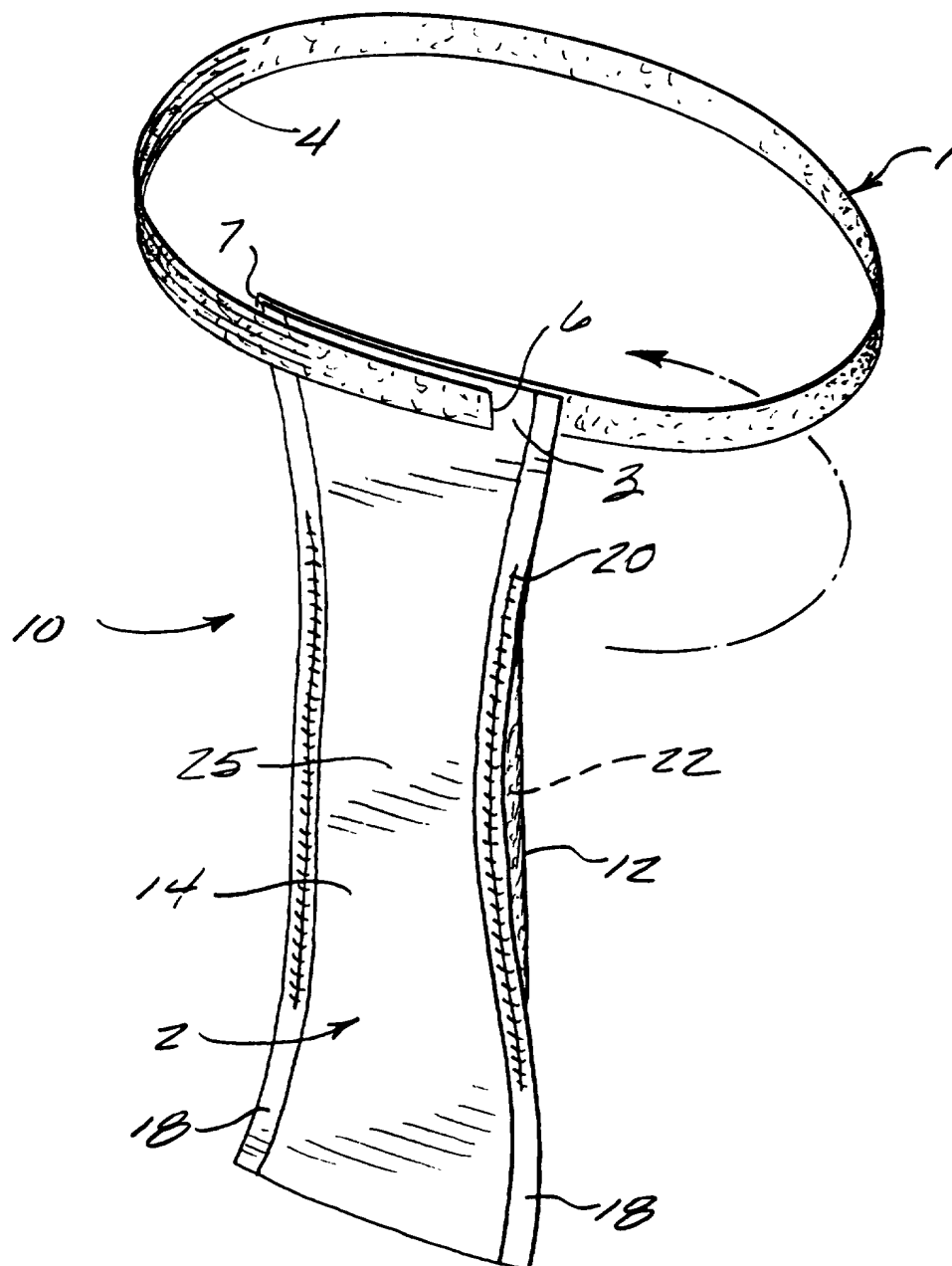




FIG. 3

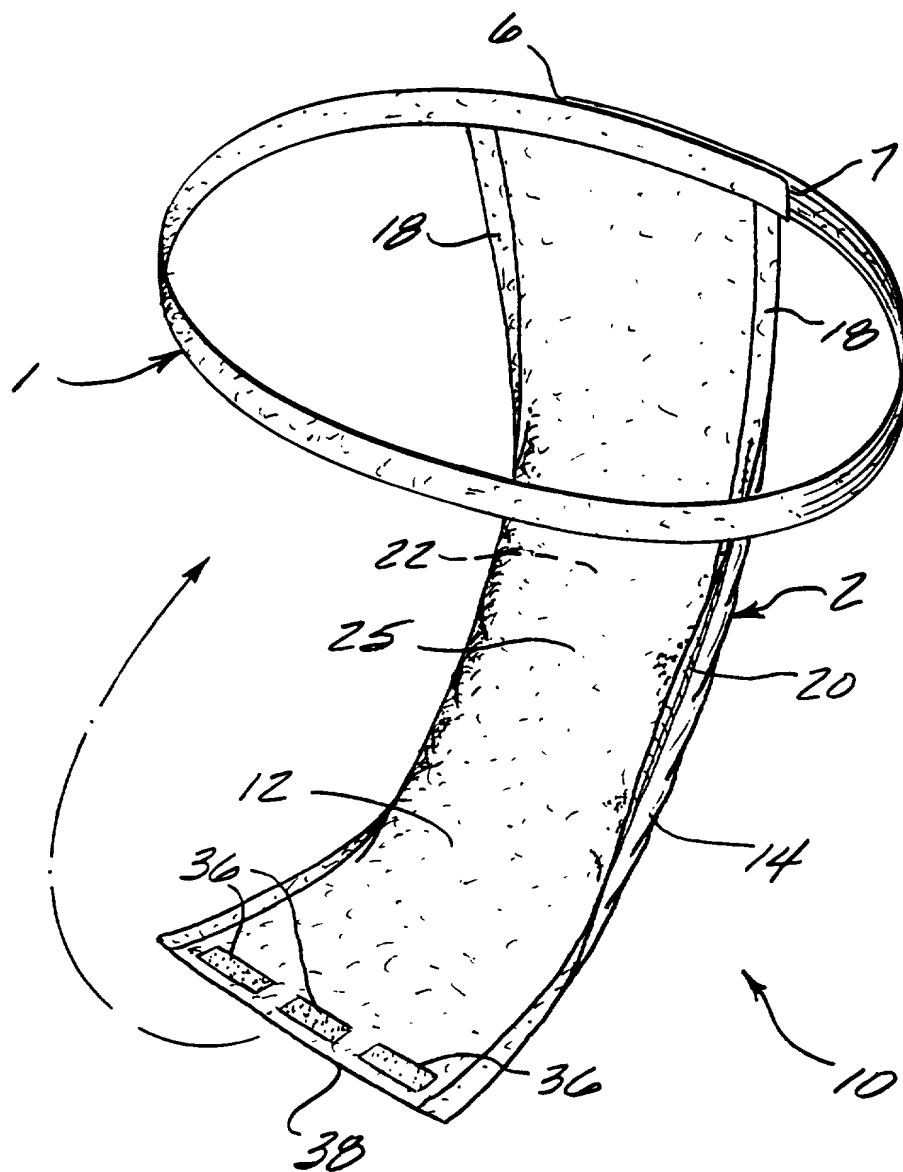


FIG. 4

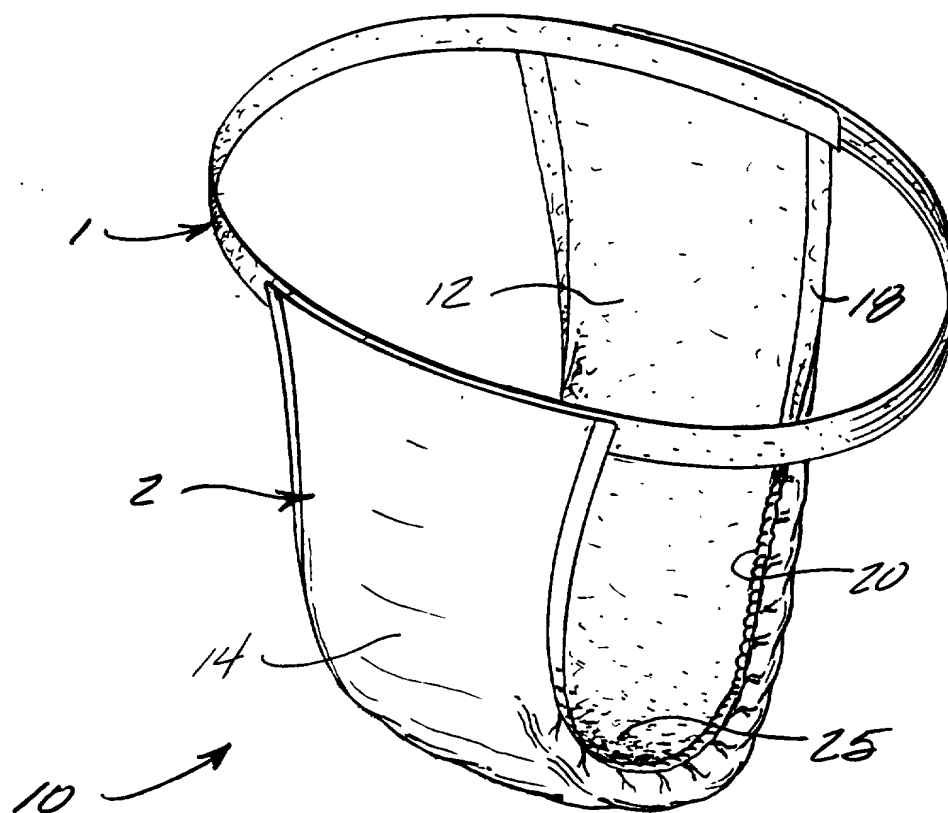
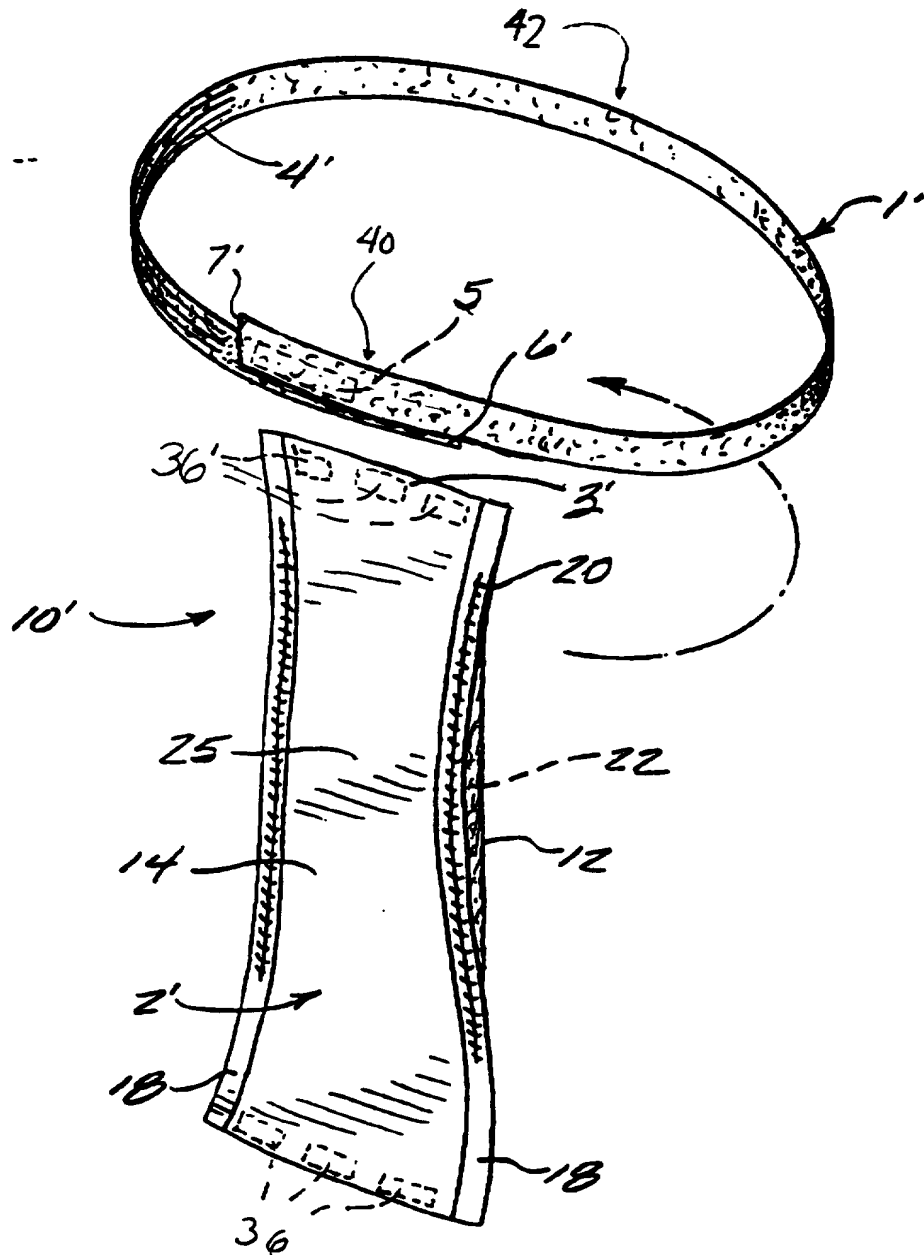


FIG. 5



DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled **ABSORBENT GARMENT HAVING A WAIST BELT ATTACHMENT SYSTEM**, the specification of which

(check one) ☒ is attached hereto.

☐ was filed on \_\_\_\_\_ as

Application Serial No. \_\_\_\_\_

and was amended on \_\_\_\_\_.  
(if applicable)

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, §119 (a)-(d) or §365(b) of any foreign application(s) for patent or inventor's certificate, or §365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed.

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669121-28549460

Prior Foreign Application(s):

Country	Application Number	Date of Filing	Priority Claimed Under 35 U.S.C. 119	
			<input type="checkbox"/> YES	<input type="checkbox"/> NO
			<input type="checkbox"/> YES	<input type="checkbox"/> NO
			<input type="checkbox"/> YES	<input type="checkbox"/> NO

I hereby claim the benefit under Title 35, United States Code, §119(e) of any United States provisional application(s) listed below:

\_\_\_\_\_  
(Application Number)

\_\_\_\_\_  
(Filing Date)

\_\_\_\_\_  
(Application Number)

\_\_\_\_\_  
(Filing Date)

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

\_\_\_\_\_  
Application Serial No.      Filing Date      Status

\_\_\_\_\_  
Application Serial No.      Filing Date      Status

I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith as well as to file equivalent patent applications in countries foreign to the United States including the filing of international patent applications in accordance with the Patent Cooperation Treaty: Audley A. Ciamporzero, Jr. (Reg. #26,051), Steven P. Berman (Reg. #24,772), Andrea L. Colby (Reg. #30,194), Michael Stark (Reg. #32,495), and Joel A. Rothfus (Reg. #33,277) One Johnson & Johnson Plaza, New Brunswick, NJ 08933.

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Address all telephone calls to Joel A. Rothfus at telephone no.  
(732) 524-2722.

Address all correspondence to Audley A. Ciamporzero, Jr., One  
Johnson & Johnson Plaza, New Brunswick, NJ 08933-7003.

I hereby declare that all statements made herein of my own  
knowledge are true and that all statements made on information  
and belief are believed to be true; and further that these  
statements were made with the knowledge that willful false  
statements and the like so made are punishable by fine or  
imprisonment, or both, under Section 1001 of Title 18 of the  
United States Code and that such willful false statements may  
jeopardize the validity of the application or any patent issued  
thereon.

Inventor's Signature: \_\_\_\_\_

Full Name of Sole  
or First Inventor

NELS LAURITZEN

Date: \_\_\_\_\_

Citizenship: U.S.

Residence: 39 Orris Avenue, Piscataway, NJ 08854

Post Office Address: Same as above

Inventor's Signature: \_\_\_\_\_

Full Name of Second Joint  
Inventor, If Any

Date: \_\_\_\_\_

Citizenship:

Residence:

Post Office Address:

Inventor's Signature: \_\_\_\_\_

Full Name of Third Joint  
Inventor, If Any

Date: \_\_\_\_\_

Citizenship:

Residence:

Post Office Address:

(Supply similar information and signature for fourth and  
subsequent joint inventors.)

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